3D Microfabrication by Two-Photon Polymerization as Key Enabling Technology

Henrik Akesson, Executive Sales Manager
EPIC Online Technology Meeting on Micro-optics Manufacturing
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Nanoscribe worldwide in figures

1,500+ users

750+ publications

70+ employees

25% invest in R&D

12 years of success

Henrik Akesson, Nanoscribe, EPIC Online Technology Meeting on Micro-optics Manufacturing
We offer cutting-edge microfabrication systems with matching resins, software tools, optimized processes, technical consulting and services.
Direct printing of microoptics

- Lens shapes with smooth surfaces in optical quality
- Refractive lenses with diffractive elements
- Spherical, aspherical and even freeform microoptics
- Prototyping of single elements or arrays
- Surface roughness better than 10 nm $R_a$
- Prototyping of smartphone lens assemblies in days, compared to the standard two months.
Mastering for mass production.

- Polymer master instead of tool steel
- Concave for Nano Imprint Lithography.
- Convex for Injection Molding
- Surface roughness better than 10 nm $R_a$
New platform for industrial microfabrication: Nanoscribe Quantum X

Market trends for the coming 2 years

- TOF-LIDAR and other non-image sensors in Smartphones
- Refractive lenses with diffractive elements
- Non-rotational symmetric, aspherical and freeform microoptics
- DOE with 256 levels, 200nm pixel and 10-30um high
- 2” x 2” MLA and another NIL comeback

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In January 2020 we moved our headquarters to the brand-new ZEISS Innovation Hub @ KIT with modern facilities and >4,200 m² of space to take microfabrication to the next level.